

## Study the Effect of Anaphylaxis, Its Causes and Effects on Society

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**Abstract:** Allergy is one of the common diseases, as it is a major problem suffered by many around the world and as a result of the increase in pollutants in the recent period as a result of the conditions that the world is going through, the complexity of lifestyles, the use of many chemicals in our daily lives and the complexity of lifestyles, which led to an increase in allergies and severe infections associated with that. Through our study, we tried to find out the causes that can lead to increased allergic irritation in some people and thus increase respiratory tract infections and asthma that can threaten a person's life.

And find ways and treatments that can reduce or reduce the risk of irritability in some people who suffer from allergies to contribute to reducing such diseases in society, women are more likely to develop allergies and asthma than males, according to the American College of America (ACAAI).

### Introduction

The immune system plays an important role in maintaining the health and body of the human body from invasions that attack the body spread in the air, however, this system can lead to an exaggerated immune and inflammatory response and can lead to negative outcomes known as allergic reactions, therefore, allergies result from an overreaction of the immune system to a substance that is often harmful, many parts of the body may be affected as a result. The mechanism of allergy occurs when the immune system secretes a substance known as antibodies, when a person suffers from allergic conditions, he makes antibodies that the allergens are known as antibodies even if they are not. In many allergic reactions, the immune system, when exposed for the first time to the allergen produces the type E-IGE, the immunoglobulin IGE is associated with a type of white blood cells basophils in the bloodstream and a similar type of cells called mast cell in tissues, the first exposure to irritants may lead to sensitization, but it does not cause symptoms on it, but when exposed the second time, basophils and mast cell associated with IgE on their surface release substances such as ( Histamine, prostaglandin) that cause swelling on the skin or inflammation and continue to irritate tissues and damage and range from mild to severe. Many factors are responsible for the increase in allergies associated with our lifestyle, including our diet, which undergoes many industrial improvements,

climate changes that are dreamy of pollen, the spread of indoor pets and increased exposure to chemicals that cause allergies.

### **Allergens in General:**

Allergens can be found everywhere when a person has allergies, inhaling these substances can trigger symptoms, including:

- ✓ Pollen and animal dander.
- ✓ Certain types of foods such as peanuts and wheat.
- ✓ Stings of some insects such as bees.
- ✓ Dust mites.
- ✓ Pharmaceuticals.
- ✓ Chemicals such as detergents.
- ✓ Medicines such as penicillin.

### **Symptoms:**

#### **Signs and Symptoms of Allergies:**

##### **Allergic Reactions**

Its severity varies from person to person and the place where he lives, which can affect the type and severity of allergies:

- ✓ Breathing problems
- ✓ Rash or itching
- ✓ Cough
- ✓ Burning or itchy eye
- ✓ Wheezing
- ✓ Runny nose
- ✓ Diarrhea
- ✓ High temperature

##### **Types of Allergens**

##### **Airborne Allergens:**

Airborne allergens usually cause sneezing, itchy nose or throat, nasal congestion, redness, itchy eyes and coughing, and some children have wheezing and shortness of breath.

##### **Food Allergens and Insect Bites:**

The body's response depends on the degree of sensitivity to food or insect, which includes symptoms of itchy mouth or throat, rash, difficulty breathing, swelling around the face or throat, and shock, these allergens come in contact with the skin, breathing, eating or injection.

##### **Allergy Complications:**

Allergies can increase the risk of other types of diseases, including anaphylaxis:

A serious and fatal allergic reaction is a very emergency requiring rapid and immediate interference.

Anaphylaxis occurs after the body is exposed to a substance that the body is allergic to, such as some foods, or exposure to the stings of some insects such as bees and medicines, these factors are considered one of the most important allergens that lead to anaphylaxis. Therefore, the immune system, in turn, will release a quantity of chemicals that can cause shock to the body, so blood pressure drops suddenly, narrows the airways and hinders breathing, which leads to a danger to the person's life, signs and symptoms of rash, itching and swelling of the tongue appear severe, which can interfere with breathing, and this process occurs within minutes to hours, requiring medical treatment and rapid intervention to avoid death.

**Asthma:** Asthma is a common respiratory disease that has spread in recent years, asthma is one part of allergies and asthma can be defined as a condition caused by inflammation of the airways that become more sensitive to specific triggering factors that lead to narrowing of the airways, which limits the flow of air through them and causes apnea.

Many factors contribute to asthma and causing crises, and these factors may change from person to person, leading to the appearance of symptoms such as wheezing, severe cough and chest tightness.

#### **How Asthma Occurs and Its Symptoms:**

Asthma occurs as a result of many environmental factors such as allergens, diet and exposure to secondhand smoke, a major role in the development and exacerbation of the disease

#### **Symptoms Include:**

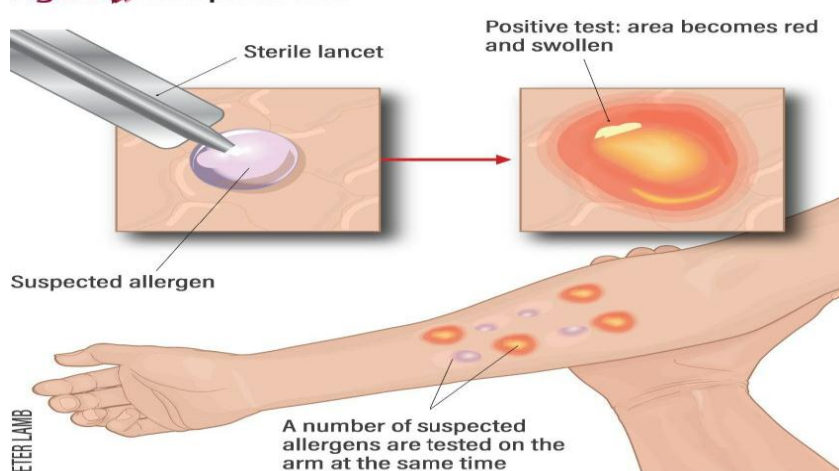
- ✓ Wheezing while breathing.
- ✓ Apnea.
- ✓ Cough.
- ✓ Chest tightness.

Wheezing and apnea are the two most characteristic symptoms of asthma.

Allergy asthma can be treated with IgE vaccine or monoclonal antibody.

#### **Allergy Diagnosis:**

In general, skin allergy tests are common and complex tests to diagnose allergy to airborne substances such as pollen or animal dander and dust mites, and may also be useful in diagnosing food allergies. Skin sensitivity test (skin prick test) potential allergens are placed on small areas of the skin to know the body's interaction with each of them, when redness appears, a positive indication of skin sensitivity to this trigger and the result appears within about 20 minutes, based on that, he checks for an allergy to insect poison or some medicines and completes the analyzes in the blood if he needs it, and based on the results of the analysis, the treatment is determined.

**Figure 4 Skin prick test**

**Blood Analysis Test:** It is done by measuring the amount of antibodies made by the body after exposure to the allergen and this analysis depends on taking a blood sample and analyzing it in the laboratory and searching for antibodies associated with allergens 19.

### Method

**Check Blood Allergies:** Blood allergy tests are used to help find out if a person has an allergy, it is usually used when it is not possible to perform a skin allergy test for reasons that may be specific skin diseases or taking certain medications that may affect the test results, the test is usually done by taking a blood sample from the vein of the arm using a small needle, after inserting the needle, a small amount of blood will be collected in a test tube and this process usually takes less than five minutes, this test does not have the risk of just a tingling sensation when inserting the needle.

### Conclusion:

After the examination, the results of the Total IgE test indicate one of the types of allergy only, specific IgE indicates that the patient is allergic to the specific allergen conducted during the examination, however, it does not clarify its severity based on the results of the examination, the allergist provides the patient with treatment that can reduce or reduce the severity of allergies in addition to depending on the patient's medical history unless the IgE percentage is low, this indicates that the individual does not suffer from allergies, as the following table shows the normal proportions of (Total IgE).

**The Following Table Shows the Normal Proportions of (Total Ige)**

Category	Corollaries
Newborns aged (0-23) months	(0-13) IU/ml
Children aged (6-10) years	(0-85) IU/ml
Adults	(0-100) IU/ml

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